

NOTES ON AND DESCRIPTIONS OF NEW SPECIES OF  
AUSTRALIAN DIPTERA.

By JOHN R. MALLOCH.

Family SYRPHIDAE.

GRAPTOMYZA Wiedemann.

Nova Dipt. Gen., 16, 1820.

GRAPTOMYZA DODDI Ferguson.

Proc. Linn. Soc. N.S.W., li., 542, 1926.

The female before me has the fourth tergite with a central black line and the third with a trace of a similar line, but the peculiar black W-shaped mark on the posterior third of the mesonotum apparently places it here rather than in *plumifer*, Ferguson. I have carefully compared the two Australian species recorded here with the Oriental species of the genus available to me in the United States National Museum and consider they are congeneric. The hind tibiae have usually a group of black setulae on the apical half of the anterior surface in all the species, and this is particularly evident in the species now recorded.

Habitat: Queensland, Kuranda (F. P. Dodd). One female.

GRAPTOMYZA FLAVICOLLIS Ferguson.

Proc. Linn. Soc. N.S.W., li., 541, 1926.

This very pretty little species, originally described from a single female from Cairns district, is the only one in which the hind femur has distinct anteroventral spines on the apical half, as recorded by Ferguson. This is not sufficient to justify the removal of the species to another genus. The hind tibial setulae are very indistinct in the female now before me.

One of the most striking characters of the genus, and one met with in all its species, consists of the oval discal depression of the scutellum.

Habitat: Queensland, Eungella, near Mackay; altitude, 2,000 feet; March, 1929 (F. H. Taylor).

Family SAPROMYZIDAE.

I present below the descriptions of two new species and record the occurrence in Queensland of the peculiar genus *Ichthyomyia* previously known exclusively from New Guinea.

SAPROMYZA XENIA, n. sp.

♀.—Head black, the ocellar triangle and frontal orbits glossy, the interfrontalia shining, and showing yellowish below the dark surface sheen, as does also the face and to a more marked degree the lower occiput, the face grey dusted and slightly shining, faintly convex. Anterior orbital short and fine, not as long as the short ocellars or postverticals. Antennae normal, the longest hairs on the aristaes barely half as long as the width of third antennal segment.

Thorax glossy black, with hardly a trace of dust, the scutellum velvety deep black, the apex shining black. Mesonotum with three pairs of strong postsutural dorsocentrals, six irregular series of fine intradorsocentral hairs, one strong pair of prescutellar acrostichals, no bristle lateral of the supra-alar, two notopleurals, and two postalars; sternopleurals two; scutellars four.

Legs testaceous yellow, fore coxae and femora black. Fore femur

without comb; all tibiae with a preapical dorsal bristle, mid tibia with one apical ventral bristle; hind femur without anteroventral bristles.

Wings greyish hyaline, veins pale. Inner cross-vein close to middle of discal cell, penultimate section of fourth vein about four-fifths as long as ultimate one.

Abdomen testaceous yellow, much shrivelled in type so that the markings, if any, are not distinguishable, the tergites with rather strong apical bristles.

Halteres pale yellow.

Length: 4 mm.

Habitat: Queensland, Millaa Millaa (F. H. Taylor).

This species will run down to caption 34 in my key to the Australian species of the genus, but the arista, though long haired, is not plumose, there is no well developed bristle laterad of the supra-alar, and the uniformly shining black mesonotum and velvety black scutellum with its shining apex distinguishes the species from any other met with so far in Australia.

*SAPROMYZA PICTIGERA*, n. sp.

♀.—Head testaceous, more distinctly yellow on anterior margin of frons, the latter the only part free of dense grey dust except the black spots, the posterior extremities of the undusted part dark brown. A black dot at base of each of the frontal and vertical bristles, largest at outer vertical and posterior orbital, a large dark mark behind middle of each eye, a smaller one below each eye, a dark brown mark between each antenna and eye, and the upper margin of face and to a less marked extent a small mark on centre of epistome brown. Antennae testaceous yellow, third segment with a fuscous mark at middle below; aristae fuscous, yellow at bases; palpi fuscous. Frons at vertex nearly half the head width and over 1.5 times as wide as long, the grey dusted orbits fused with the ocellar triangle at anterior ocellus, convergent anteriorly and not extending to anterior margin, the two pairs of bristles well developed, the anterior about half as long as posterior pair; postverticals about half as long as the proclinate ocellars. Eye narrowed below, slightly emarginate on posterior margin of lower half; gena about as high as width of third antennal segment, the latter over 1.5 times as long as wide, rounded at apex; aristae short haired; face slightly convex, entirely grey dusted.

Thorax brownish testaceous, the humeri and apex of scutellum yellowish, the whole covered with dense grey dust, the mesonotum with numerous dark brown marks of irregular shape and smaller dots of same colour at bases of the hairs and bristles, the pleura variegated with dark brown, the scutellum sooty blackish-brown on basal two-thirds except a narrow stripe near each lateral edge, and the apex white dusted. Dorsocentrals consisting of three postsutural pairs, the acrostichals fine and irregularly biseriate, the prescutellar pair well developed; sternopleurals 2.

Legs testaceous-yellow, coxae, femora except their apices, a ring near base and another at apex of each tibia black. Fore femur without comb, all tibiae with well developed preapical dorsal bristle; hind femur without anteroventral bristles.

Wings yellowish-hyaline, with a dark brown mark at base from basal of the humeral cross-vein on costa to over the anal lobe, a black spot filling the stigma, and the inner cross-vein slightly brown clouded, the field between the dark costal marks white and the veins there pale yellow. Inner cross vein at middle of discal cell; ultimate section of fourth vein not over 1.5 times as long as penultimate.

Halteres cream coloured.

Abdomen testaceous, densely pale grey dusted, with a dark brown spot at base of each of the apical bristles and a subquadrate mark of the same colour on the anterior half of each side of each tergite that is connected usually with one or more of the apical spots. Tergites except first and apical each with short hind marginal bristles.

Length: 3.5 mm.

Habitat: Queensland, Tambourine Mt. (C. Deane).

This very strikingly coloured species is readily distinguished from any known to me from Australia by the presence of the two conspicuous dark costal marks on the wing, the peculiar bicoloured field of the wing, and the spotted head, thorax, and abdomen.

I published a key to the species of this genus in 1928 (Proc. Linn. Soc. N.S.W., liii., pt. 4, 355), and in it the above species will run down to caption 36. The longest hairs on the arista being distinctly longer than its basal diameter. It is placed in the first section at that point, this section containing but one species, *ocellaris* Malloch. From *ocellaris* it is readily separated by the fact that the latter has no black costal marks on the wing, but is furnished with dark reticulations on their entire surface, the frons has two brown vittae, the face has two dark spots, and the mesonotum has four brown vittae; the antennae are also entirely black and there are a number of other distinguishing characters.

Genus *MELANINA* Malloch.

Proc. Linn. Soc. N.S.W., lii., 412, 1927.

*MELANINA MAJOR* Malloch.

Proc. Linn. Soc. N.S.W., lii., 413, 1927.

Habitat: N.S.W., St. Albans. Two specimens (F. H. Taylor).

Genus *ICHTHYOMYIA* de Meijere.

Tijdschr. v. Ent., lvii., 382, 1914.

This genus was originally described from New Guinea and has not since been recorded. In my key to the genera of Australia it will run down to caption 16. At this point it most closely agrees with the second section in which falls *Australina* Malloch, but the head is quite different in structure, the face being remarkably conically produced as shown in Fig. 1. There is no doubt as to the close affinity of the genus to *Australina*, but I consider they are entitled to acceptance as distinct. The general structures are similar and the wing markings much the same in the two genotypes.

*ICHTHYOMYIA CYPRINUS* de Meijere.

A testaceous coloured species, with fuscous markings on head as shown in the accompanying figure, the thorax largely brownish fuscous, the dorsum grey dusted and with four dark vittae; the legs testaceous, with their femora fuscous, and the wings infuscated, hyaline along their hind margins.

Habitat: Queensland, Kuranda (F. P. Dodd). One female.

I have examined the type specimen of this species which was submitted to me by Dr. de Meijere when I was working on the Philippine species some years ago and am confident the present specimen is referable here. The life-history of the species is unknown, but *Australina geniseta* Malloch, described from Darwin, N.T., was reared from larvae that were associated with coccids on *Pandanus*, and it is not unlikely that this association will be found to be a normal one, though it is possible

the larvae are merely scavengers, feeding on the excretions of the scale insect. Very little is known of the larval habits of the members of the family, and it would be of interest to discover the habits of this and related genera as the records of the few Sapromyzidae available point to their being scavengers, the larvae feeding on or in decaying leaves or humus.

Habitat: Holotype, N.S.W.; Sydney, 21.8.21 (Health Department).

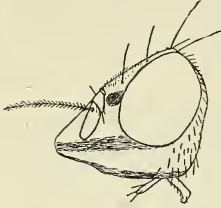


Fig. 1, Head of *Ichthyomyia cyprinus*, in profile.

Family DROSOPHILIDAE.

*LEUCOPHENGA REGINA*, n. sp.

A rather large species belonging to that section in which the halteres are entirely yellow and the wings distinctly spotted.

Head dull fawn coloured, the surface with slight whitish dusting, the ocellar spot fuscous, upper occiput shining dark brown; antennae and palpi pale brownish-yellow. Frons longer than wide, almost parallel-sided, the three orbital bristles quite strong, in a straight series and about equally spaced, the proclinate one at about one-third from anterior margin; outer pair of verticals longer than inner, the latter as long as the upper orbital and slightly longer than the ocellars, the postverticals rather short; surface with some minute spare hairs; gena linear; vibrissa single, well developed; face with a broad low central upper carina; antennae rather large, third segment rounded at apex; arista with about nine upper and four lower long hairs and some short hairs on apical half in front; palpi quite long but only slightly club-shaped; eyes bare.

Thorax fawn coloured, but slightly shining, the mesonotum without a trace of vittae, becoming testaceous yellow on sides, where it is similar in colour to the pleurae; scutellum darker brown than mesonotum, pale yellow on sides at base and around the apex. Dorsocentrals 2 pairs, pre-scutellar acrostichals well developed, intradorsocentral hairs strong, in about 8 rather irregular series; sternopleurals 2; the 4 scutellars subequal in length.

Legs testaceous-yellow. Mid femur with an almost complete series of anterior bristles, mid tibia with a complete series of posterodorsal setulae that are rather bristle-like.

Wings hyaline, with five dark brown spots and shading in some of the cells (Fig. 2). Halteres entirely brownish yellow.

Abdomen brownish yellow, slightly shining, the tergites with numerous brown spots and irregular discal markings, each with a series of black dots at apex, one at base of each of the apical bristles.

Length: 3-3.5 mm.

Habitat: Queensland, Mt. Molloy (F. H. Taylor). Holotype ♂, allotype, and 8 paratypes.

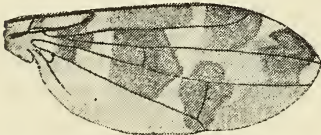


Fig. 2, Wing of *Leucophenga regina*.

This very pretty species is readily distinguished from any already described from Australia, or elsewhere, by the wing markings.

## Family TETHINIDAE.

This group of small flies contains comparatively few genera and species, and so far but one has been described from Australia. This belongs to the genus *Tethina* in which the interfrontalia is furnished with two series of setulae or weak bristles, the apices of which are incurved or cruciate, the series converging anteriorly. There has been some confusion in the generic identities until recently, but now *Tethina* is well established and has been definitely segregated from *Pelomyia* Williston, in which latter there are no series of interfrontal bristles. I have before me two genera of the family which are distinguished as below.

## Key to the Genera.

- A. Face with a small glossy more or less angular elevation on each side just above and slightly mesad of the vibrissae . . . *Tethina* Haliday.  
 AA. Face without glossy elevations as above . . . *Dasyrhicnoessa* Hendel.

## TETHINA, Haliday.

Ann. Nat. Hist., ii, 188, 1839.

The most widely distributed genus of the family, occurring throughout the Old and New Worlds and generally associated with the shores of bodies of water, though nothing definite is known of the larval habits. Generally found on the sea-shore.

There are three Australian species before me, one previously described.

## Key to the Species.

1. Hind tibia with some anterodorsal and posterodorsal bristles, some of which are distinctly longer than the diameter of the tibia; scutellum with numerous short discal hairs; intradorsocentral hairs in about eight rather irregular series, short and closely placed . . . *tibiseta*, n.sp. Hind tibia without outstanding bristles; scutellum bare except for the four marginal bristles; intradorsocentral hairs in about four irregular series, the median two series presuturally longer than the others. 2.
2. Olive-grey dusted species, with the frontal and thoracic bristles all dark . . . . . *nigriseta* Malloch.  
 Whitish grey dusted species, with the cephalic and thoracic bristles yellow . . . . . *pallidiseta* n.sp.

## TETHINA (MACROTETHINA) TIBISETA, n. sp.

I believe that this species is entitled to subgeneric separation from *Tethina* and propose the name *Macrotethina* for the segregate. The characters are those cited in the above key to the species, and in addition the lack of a well developed pair of divergent postocellar (postvertical) bristles. The eyes are very short haired; in fact it is extremely difficult to detect the hairs, which is also the case in the species placed in the genus next dealt with.

♂, ♀.—Head yellow, the frons almost orange-yellow, the orbits slightly greyish dusted, the ocellar spot and occiput except its lower margin fuscous and with grey dust, the genae and face pale yellow, with whitish dust; antennae yellow, the third segment on a part of its outer surface, and the entire arista fuscous; palpi and proboscis yellow. Frons at vertex fully one-third of the head width, orbits poorly defined, each with two upper slightly outwardly-curved, and one reclinate lower bristle, a series of incurved inner marginal pale hairs and some rather shorter and darker outwardly curved hairs close to eye margin; all four verticals and the ocellars long, the postocellar region with a few short hairs, and the occiput with a pair of rather long incurved bristles below edge of vertex;

interfrontalia with three or four pairs of incurved setulose hairs, the central pairs strongest. Antennae normal, the second segment with a few setulae; arista hardly longer than antennae, microscopically pubescent. Face slightly concave in profile, with the usual elevation on each side near vibrissae, gena about one-fifth as high as eye, with a series of lower marginal black upcurved bristles and a single vibrissa. Eyes with extremely short pile. Palpi slender. Prelabrum entirely pale.

Thorax fuscous, densely dark grey dusted, mesonotum not vittate, humeral angle and region at base of the posterior notopleural bristle fulvous yellow. Humerals 3, postalars 2, dorsocentrals 1 + 3, presutural well developed, prescutellar pair of acrostichals distinct, intradorsocentral hairs anteriorly in about 8 irregular series, all short and closely placed; propleural and stigmatal bristles distinct; scutellum with short discal hairs and 4 marginal bristles, the basal pair the shorter.

Legs fulvous-yellow, usually the apices of all femora and tibiae, and the fourth and fifth tarsal segments, blackened. Fore femur with a comb-like series of short black setulae on apical half of the anteroventral surface; hind tibia with one or two fine black bristles on basal half of the posteroventral surface and three or more stronger bristles on the apical two-thirds of the anterodorsal surface, apical spur on mid tibia long and straight, that on hind tibia shorter and slightly curved, the basal segment of hind tarsus with two small black bristles at base below.

Wings hyaline, veins yellow. Inner cross vein close to middle of discal cell; penultimate section of fourth vein about one-third as long as ultimate, the latter much weaker than third vein, and the section of the costa between it and third very weak, subobsolete, the ultimate section of fifth vein about three times as long as the outer cross vein. Halteres yellow.

Abdomen coloured as thorax, usually with pale apices to the tergites, which are more marked in the female than in the male.

Length: 2.5-3 mm.

Habitat: Queensland, Townsville (F. H. Taylor). Holotype ♂, allotype, and 12 paratypes.

*TETHINA (TETHINA) NIGRISETA*, Malloch.

Proc. Linn. Soc. N.S.W., xlix., 337, 1924.

A smaller species than *tibiseta*, with the same general coloration, but the mesonotum is not partly yellow on the sides, the bristles on the lower margin of the genae are brownish yellow, and the legs are fulvous-yellow, with the fifth tarsal segment slightly darkened. In addition to the structural distinctions mentioned in the foregoing key to the species, the following may be noted: The fore femur has no apical anteroventral comb, the apical ventral tibial spurs are much shorter, and the costal vein is distinct to the apex of the fourth vein.

In addition to the type specimen from Woolgoolga, N.S.W., I have before me two specimens from Sydney, and one from Townsville, the latter collected by F. H. Taylor.

*TETHINA (TETHINA) PALLIDISETA*, n. sp.

A small species much like *nigriseta* in general characters, but much paler dusted and with almost white bristles and hairs throughout.

♂, ♀.—Head yellowish white, densely white dusted, the ocellar triangle and upper part of occiput dark and with grey dust, all the bristles and hairs white or yellowish white. Frons longer than in *tibiseta* as compared with its width, the bristling much as in that species, but all the

four orbitals apparently outwardly curved, and the gena about half as high as eye.

Thorax as in *nigriseta*, but densely whitish-grey dusted, and with the hairs and bristles almost white.

Legs entirely yellow, armed as in *nigriseta*.

Wings whitish hyaline, the venation as in *nigriseta*. Halteres yellow.

Abdomen coloured as the thorax, the hairs white.

Length: 2 mm.

Habitat: New South Wales, Collaroy. Type ♂, and allotype.

The type-specimen is damaged. It was collected by the late Dr. E. W. Ferguson and belongs to the Health Department collection in Sydney.

#### DASYRHICNOESSA, Hendel.

This genus is very similar to *Tethina*, differing mainly in the lack of the pair of facial protuberances near the vibrissae. In the species I have seen there are no outstanding acrostichal setulae except the prescutellar pair, the postocellar pair of divergent bristles is very small, and the venation is similar to that of *Tethina*, the discal and posterior basal cells being separated by a complete cross vein. In all species there is also at least a partial series of minute spinules on the apical part of the anteroventral surface of the fore femur, though this is rather variable in strength and usually extremely difficult to make out.

There are apparently two species in the Australian material, both of them quite similar to the Formosan one which I have examined, being of a general fulvous-yellow colour, with entirely yellow legs and the abdomen partly infuscated. The bristles are largely brownish-yellow, though those on the genal margin and some of those on the orbits are darker. Both the Australian species differ from the other in having the face considerably wider, at the epistome over twice as wide as the distance from either vibrissa to the nearest point of the eye, as against less than twice as wide.

#### Key to the Species.

- A. Mesonotum entirely dull fulvous-yellow; abdomen with blackish marks at the bases of the second and third tergites or almost all of these two tergites blackened; armature of the anteroventral surface of the fore femur consisting of a few microscopic pale spinules that are not very closely placed . . . . . *fulvescens*, n. sp.
- AA. Mesonotum dull brownish yellow, with greyish marks, the most obvious being a rather broad poorly margined central vitta; abdomen with the bases of the tergites blackened, their apices fulvous yellow; armature of the fore femur consisting of a comb-like series of closely placed black setulae on almost the apical half of the anteroventral surface . . . . . *serratula*, n. sp.

#### DASYRHICNOESSA FULVESCENS, n. sp.

A small dull fulvous-yellow species, with a narrow black edging round the posterior side of the anterior and the inner side of the two posterior ocelli, and the second and third tergites of the abdomen largely blackened.

♀.—Head normal, the frons at vertex about two-fifths of the head width, all four verticals well developed, the postocellar divergent bristles short and fine, the incurved pair below the vertex longer and stronger, the ocellars about as long as the inner verticals, each orbit with three bristles and the usual short hairs, the interfrontalia with two series of incurved bristles, usually three in each, and some interspaced short hairs. Eyes higher than long, with extremely short hairs; gena about one-fifth

of the eye height; face depressed, fully twice as wide between the vibrissae as the distance of either from nearest point of eye. Antennae normal, the arista short, almost bare. Bristles mainly black, the hairs slightly paler.

Thorax entirely dull fulvous-yellow. Dorsocentrals 1 + 3, presutural long, the prescutellar pair of acrostichals long, intradorsocentral hairs irregularly sexseriate, the two median series hardly longer than the others; scutellum bare on the disc, the basal pair of bristles a little shorter than the apical pair.

Legs entirely fulvous-yellow. Fore femur with a series of fine and rather short posteroventral bristles, most distinct apically, and a few short rather widely spaced spinules on the apical half of the anteroventral surface; mid tibia with the apical ventral spur short; hind tibiae without dorsal bristles.

Wings whitish hyaline, veins pale. Inner cross-vein before middle of discal cell, penultimate section of fourth vein about one-third as long as ultimate and about equal to ultimate section of fifth, the latter about four times as long as the outer cross vein. Halteres yellow.

Abdomen slender, tapered to apex, with two rather long slender apical lamellae.

Length: 1.5 mm.

Habitat: Queensland, Townsville (F. H. Taylor). Type and one paratype.

DASYRHICNOESSA SERRATULA, n. sp.

♀.—A little stouter and darker than the preceding species, the mesonotum with at least a central broad dark greyish dusted vitta, and all the abdominal tergites with their bases blackened more or less broadly. The fore femur has a very evident comb-like series of short black setulae on the apical half of the anteroventral surface.

Length: 1.5 mm.

Habitat: Queensland, Townsville (F. H. Taylor).

It is possible but hardly probable that this is a variety of *fulvescens*. It is quite noticeably more robust in build and, apart from the colour characters mentioned, the armature of the fore femora would appear to justify the separation.

Family NEOTTIPHILIDAE.

Genus TAPEIGASTER Macquart.

Mem. Soc. Sci., Lille, 102, 1846.

There are five known species of this exclusively Australian genus to which species I presented a synoptic key (Proc. Linn. Soc. N.S.W., lv., 1930, 435). Before me at this time there is an additional species which is described below.

TAPEIGASTER TAYLORI, n. sp.

♂.—Head bright fulvous-yellow on frons, paler below, with faint changeable white dusting; ocellar spot black; antennae brownish-yellow. Epistome hardly projecting beyond vibrissal angles, simple.

Thorax duller than frons, the mesonotum with grey dusted rather irregular vittae that divide the surface into four darker vittae; pleura irregularly infuscated on upper margin. Bristles as in *marginifrons*, the prescutellar pair of acrostichals and two posterior pairs of dorsocentrals developed.

Legs yellow, extreme apices of all femora, a dark mark on centre of



each femur, smallest on the fore pair, and a black annulus near base and another at apex of each tibia; fifth segment of all tarsi brown. Fore and mid femora distinctly stouter than the hind pair, all with fine hairs that are longest below, and with short black bristles in a double series at apices that are weaker than usual, the hairs on the basal half of the ventral surface of mid pair dense, short, and black; mid tibia with the ventral hairing dense and rather long.

Abdomen entirely yellow. Terminalia large and complicated but without projecting dorsal processes on seventh tergite.

Wings yellowish, more intense basally on the costa. Tegulae black. Halteres yellow.

Length: 9 mm.

Habitat: N.S.W., Tallong (F. H. Taylor).

A fulvous-yellow species similar to *argyrosbila* Bezzi, in general colour, the antennae brownish-yellow, and all femora with a black central mark or ring.

Named in honour of the collector.

Family PHORIDAE.

Genus APOCEPHALUS Coquillett.

Proc. Washington Acad. Sci., iv., 501, 1901.

The first described species of this genus was found in North America and because of the peculiar habits of the larva was called the Ant-decapitating Fly. The larvae are found between the head and thorax of the ants upon which it is predacious, and as they feed on the host they destroy the tissue of the conjunctive, decapitating the ant. Several species have been described from various other regions, but whether the same habit obtains outside of America is unknown. No data are available on the species now described.

APOCEPHALUS NIGER, n. sp.

A small dull brownish-black species, with the legs becoming paler apically, and the halteres fuscous.

♂.—Head black, frons dull, antennae and palpi brownish. Frons much wider than long, emarginate on each side in front, the vertical bristles stronger than the upper transverse series, the latter in an almost straight row, the two comprising the anterior or lower series about as far in front of the upper series as the latter are from the verticals, the bristles erect and slightly divergent. Antennae large, third segment pyriform, the apex slender, with apical arista as usual, the surface densely pilose. Palpus not as large as third antennal segment, slightly dilated and with a number of short bristles.

Mesonotum with short decumbent black hairs and a pair of pre-scutellar dorsocentral bristles; mesopleura bare; scutellum with a pair of strong bristles near base and slightly inside of outer edge.

Legs without any tibial setulae, the tibiae round in cross section, no dorsal ridge on hind pair; apical spur on mid and hind tibiae well developed.

Wings hyaline, veins fuscous. Costa extending to middle, the first section 1.5 as long as second, third very short, fringe not longer than diameter of costal vein.

Abdomen slender, terminalia small, bulbous.

Length: 1.25 mm.

Habitat: N.S.W., Sydney, 21.8.21. Holotype: Health Department.